

## **Cauchas terskella – a new species of Adelidae s. str. from Middle Asia**

(Lepidoptera, Incurvarioidea)

by

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**Abstract:** A new species *Cauchas terskella* is described from south-eastern Kazakhstan. The male and female genitalia are pictured. The new species differs from all the other unpatterned small-eyed Adelidae only in the structure of the genitalia.

**Zusammenfassung:** Eine neue Art *Cauchas terskella* – wird aus dem süd-östlichen Kasachstan beschrieben. Die männlichen und weiblichen Kopulationsorgane werden dargestellt. Der neue Art unterscheidet sich von den anderen einfarbigen kleinäugigen Adeliden nur durch den Bau der Kopulationsorgane.

**Резюме:** Новый вид *Cauchas terskella* описан из Юго-Восточного Казахстана. Приведены рисунки терминалий самцов и самок. Новый вид надежно отличается от прочих одноцветных Adelidae с маленькими глазами лишь по строению терминалий.

### **Introduction**

A new species of Adelidae was discovered among the Lepidoptera collected by Dr. V. V. ZOLOTUHN in south-eastern Kazakhstan. Its description is given below. The types are deposited in the Zoological Institute of the Russian Academy of Sciences (St.-Petersburg).

### ***Cauchas terskella* spec. nov.**

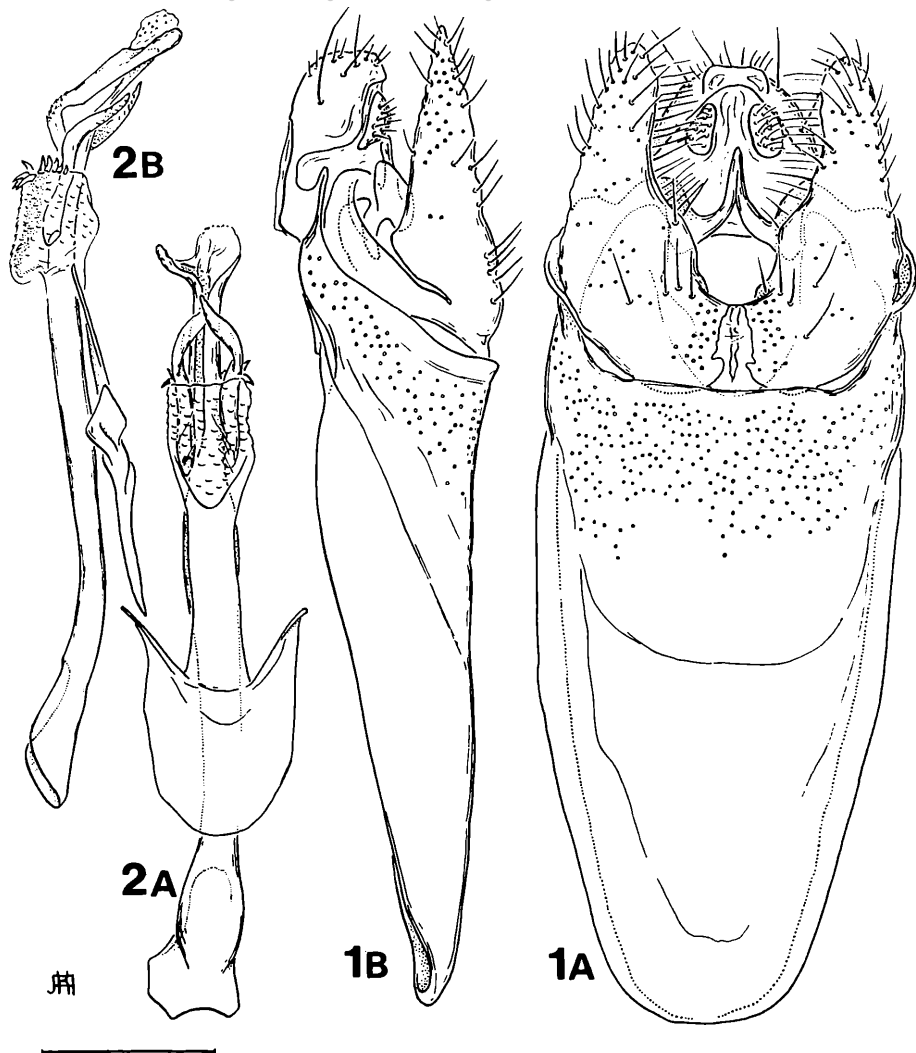
#### **Type-material**

Holotype ♂, with original label: 8x14 mm "9.VIII.1993 SO Kazakhstan 28 SSW Narynkol h=3300m V. ZOLOTUHN" and supplementary label of red paper: "Holotypus *Cauchas terskella* sp.n. ♂ micr. praep. KUPRIJANOV det., 1993".

Paratypes: 6 ♂♂, 13 ♀♀, with the same original labels and supplementary labels of red paper: "Paratypus *Cauchas terskella* sp.n. ♂ [or ♀] KUPRIJANOV det., 1993".

#### **Diagnosis**

According to the key published by E. S. NIELSEN (1980) this species is to be placed in the genus *Cauchas* ZELLER. Among the species of *Cauchas* (NIELSEN & JOHANSSON, 1980) *Cauchas terskella* is most similar to *C. fibulella* by the armature of anellus and shape of the



Figs. 1, 2. Male genitalia of *Cauchas terskella* spec. nov., paratypus: 1 – tegumen, vinculum, and valvae; 2 – aedoeagus, anellus and juxta. A – ventral view, B – lateral view. Scale bar: 0.25 mm.

valva but differs from this one by the broad scales on the frons, by the unpatterned forewings and by the shape of aedeagus apex. Since the genus *Cauchas* sensu NIELSEN & JOHANSSON, 1980 is undoubtedly a polyphyletic group, the description will be more detailed than would normally be.

### Description

**Head:** The eyes are relatively small (the ratio of the eye's diameter to the width of the frons on the level of fore tentorial pits is approx. 0.38). The antennae lack pegs (see NIELSEN, 1980). The proboscis is long. The maxillar palpi are rudimentary, and three-segmented. The length of the labial palpi is equal to the width of the frons, 3rd and 2nd segments are subequal in length, the 1st is somewhat shorter than the 2nd; the 1st and 2nd are curved dorsalwards, the 3rd is almost straight, narrower than 2nd and 1st, with a pointed tip. Scales on the head are rubbed out in all specimens, but the comparison of their rests allows me to suggest that the frons is covered with broad golden scales, hair-like scales on vertex and under the antennal sockets are black ones, those around occipital surface are yellowish-white; mouthparts and antennae are covered with dark golden scales.

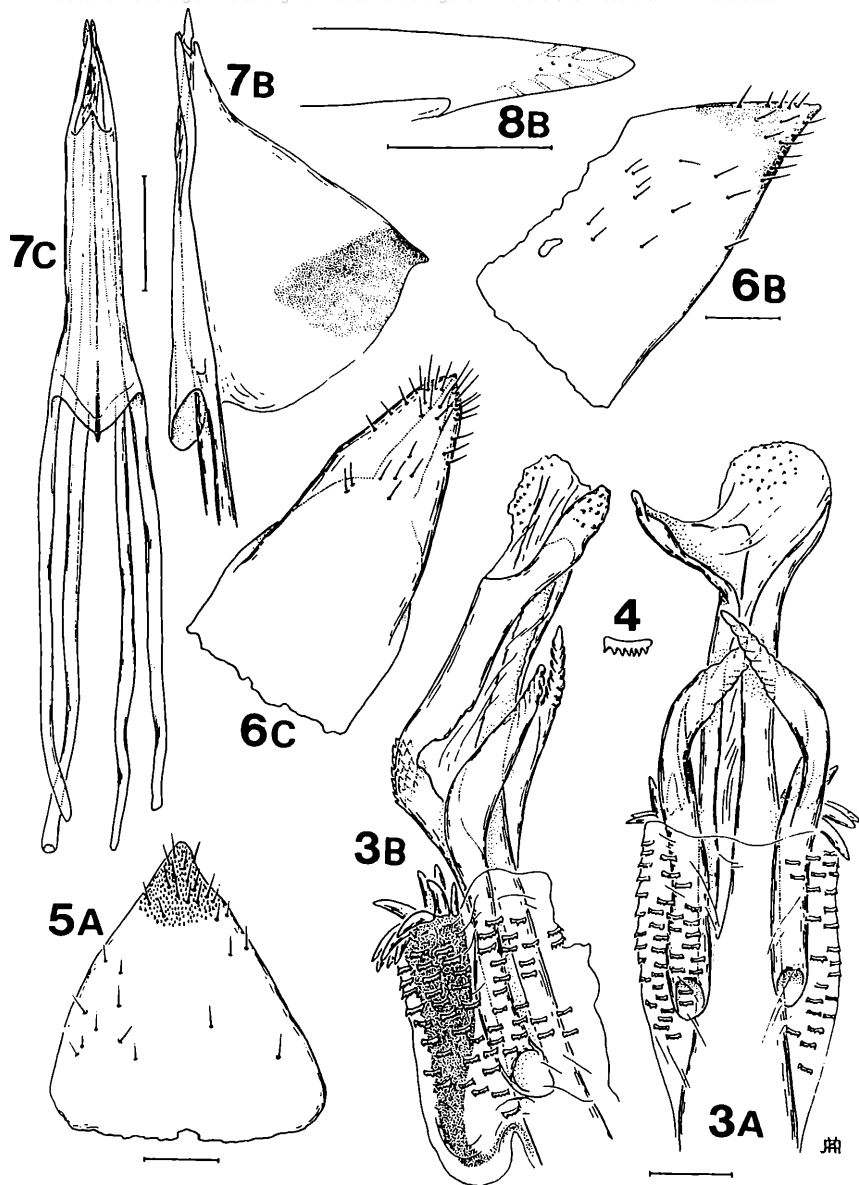
**Thorax:** Length of the forewing: ♂♂ 4.35–5.00 mm, ♀♀ 4.95–5.50 mm. Forewings unpatterned, dark golden with purple sheen. Fringe of the same colour. Hindwings dark violet.

**Male genitalia** (figs. 1–4). Vinculum: cranial margin rounded, the caudal margin is almost straight, in some specimens with deep triangular medial emargination. Vinculum is approx. 2.66 times longer than the tegumen. The transtilla consists of two curved bar-like lateral parts and of a medial plate. The medial plate subtriangular with strong sclerotized lateral bars fused caudally, producing a prominent caudal process. The cranial processes of the transtilla are absent. Valva: sharply constricted at its midlength, the apex is rounded. The dorsal margin of the valva is approx. three times shorter than the vinculum. Aedeagus: basally tubular, in the apical quarter divided into two asymmetrical lobes. The left lobe is apically rounded, the right lobe is apically pointed. The left lobe possesses a dorsal group of small spines at its base. Vesica has small spines. Anellus: membranous, dorsally with a group of strong spines covered densely with small comb-shaped sclerites corresponding undoubtedly to the simple compressed spines observed in other adelids, with a pair of long (approx. one quarter of aedeagus' length) curved horn-like strongly sclerotized sclerites. Juxta: broad arrow-shaped, cranial part U-shaped.

**Female genitalia** (figs. 5–8). 7th tergum triangular with rounded corners and with slightly convex lateral sides. Caudal corner with microtrichia. 7th sternum pentagonal with caudal part strongly sclerotized. "Tuberculate plates" approx. at 0.2 from its cranial margin. 8th segment's dorsal plate narrow (median keel is approx. 3.5 times longer than dorsal plate's maximal width), weakly sclerotized. Apophyses anteriores slender, approx. 1.25 times longer than the median keel. The 8th segment's sternum is weakly sclerotized, almost membranous with a more melanized zone at its cranial margin. 9th segment: Apex of ovipositor compressed laterally, looks like a narrow triangle in the lateral view. Apophyses posteriores slender, approx. 2.5 times longer than the median keel of the 8th tergum.

### Biology

Praeimaginal stages are unknown. Adult moths were collected from the flowers of *Parnassia bifolia* NECR. (Parnassiaceae) (Dr. V. V. ZOLOTUHN, pers. comm.; the plant was determined by Dr. Yu. A. IVANENKO) at a height of approx. 3300m above sea level.



Figs. 3, 4. Male genitalia of *Cauchas terskella* spec. nov., paratypus: 3 – anellus and distal part of aedoeagus; 4 – a modified comb-shaped spine of anellus. A – ventral view, B – lateral view. Scale bar: 0.05 mm.

Figs. 5–8. Female genitalia of *Cauchas terskella* spec. nov., paratypus: 5 – 7th tergum (appressed); 6 – 7th sternum; 7 – segments nos. 8 + 9; 8 – apex of ovipositor. A – dorsal view, B – lateral view, C – ventral view. Scale bars: figs. 5–7: 0.25 mm, fig. 8: 0.05 mm.

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#### Distribution

Only the above mentioned specimens from the Inner Tien-Shan mountains (Terskey-Ala-Too) are known.

#### Acknowledgements

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#### References

- NIELSEN, E. S. (1980): A cladistic analysis of the Holarctic genera of adelid moths (Lepidoptera, Incurvarioidea). – Ent. scand. 11:161–178.
- NIELSEN, E. S. & R. JOHANSSON (1980): *Cauchas breviantennella* n. sp. from NW Europe and *C. brunnella* n. sp. from Uzbekistan, with a check-list of the Palaearctic *Cauchas* species (Lepidoptera: Adelidae). – Ent. scand. 11:145–153.

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